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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Harri Miettinen

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EXAMINER

VAKILI, ZOHREH

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,245	<b>Applicant(s)</b> MIETTINEN ET AL.	
	<b>Examiner</b> ZOHREH VAKILI	<b>Art Unit</b> 1614	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 7-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Claims 1-18 are presented for examination.**

Applicant's Amendment filed March 26, 2009 has been received and entered into the present application. Claims 1-18 are pending and are herein examined on the merits. Claims 7-17 are withdrawn since they are directed to unelected subject matter.

Applicant's arguments, filed March 26, 2009 have been fully considered. Rejections not reiterated from previous Office Actions are hereby withdrawn. The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

### ***Claim Rejections - 35 USC § 112 (New Matter)***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 18 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant adds new limitations to the claims that

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raise the issue of new matter. New matter issues are raised when Applicant includes limitations in the claims that he/she clearly did not have possession of at the time of invention. The silence of the disclosure regarding **consisting essentially of** is not sufficient to now claim the exclusion of such steps because nowhere in the disclosure has Applicant discussed **consisting essentially of** in the context of the claimed composition/method.

***Claim Rejection(s)—35 USC 103 (Maintained)***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schasteen et al. (US Pub. No. 20040175434 A1), in view of Raczek (US patent No. 6787166 B2), and further in view of Bland (US Pub. No. 20020009527 A1).

Schasteen et al. teach as an animal feed e.g. dairy cows, lactating dairy cows, dairy calves, beef cattle, sheep, goats, fish, crustaceans, swine, horses, chickens, turkeys, hatchlings, dog or cat, for inhibiting and killing microbes e.g. bacterium or mold in water or dry and/or liquid food (e.g. human food, livestock food, pet food, aquaculture food, meat or bone meal) containing corn and soya having a moisture content of 0 - 17 (preferably 0.01, especially 10) wt.% and for enhancing the palatability of animal food e.g. canine, feline or aquaculture (all claimed). Preferred Components: (a) Is derived from organic acid having at least one carboxyl and has pKa of less than 5.5. (a) Is formic acid, acetic acid, propionic acid, butyric acid, benzoic acid, lactic acid, malic acid, tartaric acid, mandelic acid, citric acid, fumaric acid, sorbic acid, boric acid, succinic acid, adipic acid, glycolic acid and/or glutaric acid (preferably formic acid, propionic acid, butyric acid, lactic acid, citric acid or fumaric acid). (b) Is mineral acid (preferably phosphoric acid, sulfuric acid, phosphorus acid, hydrochloric acid, hydrobromic acid or nitric acid, especially phosphoric acid). The combined concentration of (I) and organic acid is 0.1-50 (preferably 0.8 - 30, especially 1 - 25, particularly 1 - 10) g/kg. For enhancing the palatability of canine and feline food, 0.10 and 0.25 wt.% of (I) is used respectively. Preferred Composition: The composition comprises (wt.%): either 2-hydroxy-4-(methylthio)butanoic acid (Ia) (5 - 20, preferably 10), formic acid (65 - 85, preferably 75), propionic acid (1 - 15, preferably 5), and

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phosphoric acid (5 - 20, preferably 10); (Ia) (20 - 40, preferably 30), formic acid (45 - 65, preferably 55), propionic acid (1 - 20, preferably 10), formic acid (20 - 40, preferably 30), lactic acid (8 - 28, preferably 18), and phosphoric acid (10 - 30, preferably 20); (Ia) (10 - 30, preferably 20), butyric acid (2 - 22, preferably 12), propionic acid (20 - 40, preferably 30), formic acid (65 - 85, preferably 75), propionic acid (1 - 15, preferably 5), and phosphoric acid (1 - 15, preferably 5); or (Ia) (20 - 40, preferably 30), formic acid (40 - 60, preferably 50), and propionic acid (10 - 30, preferably 20). The content of (Ia) is 5 - 50 (preferably 5, 25 or 45) wt.% of the sum of (Ia) and acidulant. Preferred Method: The combination mixed with the food, which is heat-treated, is applied to a pre-mixed or pre-pelleted feed and is uniformly dispersed throughout the food.

Raczek teaches the invention relates to a storage-stable preparation that comprises sorbic acid and other acids and can be used alone in feeds or in a mixture with other feed additives in farm animal husbandry. Previously, feed experiments have been carried out, predominantly with piglets, which verified that various organic acids, such as citric acid, fumaric acid or formic acid are able to affect animal growth in a positive manner if they are admixed to the piglet feed in an optimum dose. Very recently, it has also been shown that sorbic acid at high concentrations (1.8-2.4% sorbic acid, based on the feed) has a high nutritional activity for growing piglets (see col. 1, lines 50-57).

Bland teaches the present invention provides a method of raising livestock comprising: The aqueous formaldehyde solution can contain additional ingredients

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conventionally used to preserve animal feed such as 5-15 wt. % C1-C-carboxylic acids or salts thereof including formic acid, acetic acid, propionic acid, butanoic acid, benzoic acid, sorbic acid and lactic acid. Suitable salts include alkali, alkaline earth, calcium, sodium and ammonium (see paragraph 0039). By formic acid, a carboxylic acid, being present with the base ammonium chemically a base neutralizes the acid in the solution, therefore meeting the limitation of claim 4. An animal feed which is resistant to challenge by pathogenic bacteria comprising: 100-1000 grams of hydrolyzable formaldehyde adduct per ton of feed distributed with a coefficient of variation of 7% or less; and **1-20 wt. % water** (see claim 1), therefore meeting the limitation of claim 5. The animal feed of claim 1 comprising: a member selected from the group consisting of corn, grain sorghum, wheat, barley, oats, soybean meal, cottonseed meal, feather meal, animal by-products and vegetable protein meal; and in addition comprising an added C.sub.1-C.sub.8-carboxylic acid or salt thereof, an added C1-C.8-alcohol or an added terpene, or mixtures thereof, in addition to any carboxylic acid, alcohol or terpene present in said member (see claim 2). The feed of claim 2 wherein said added carboxylic acid is selected from the group consisting of formic acid, acetic acid, propionic acid, benzoic acid, sorbic acid, lactic acid and butanoic acid; and wherein said alcohol is selected from the group consisting of methanol, ethanol, propanol, butanol, pentanol, hexanol, heptanol, octanol and phenol (see claim 3).

It would have been obvious to have combined the teachings of the above references to produce a liquid composition to add to feed to promote animal growth. Therefore, it would have been prima facie obvious to a person of ordinary skill in the

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art, at the time the claimed invention was made, to combine the teachings of the above references to produce a liquid composition comprising of sorbic acid, formic acid, and propionic acid.

A person of ordinary skill in the art would have been motivated to combine the teachings of the above mentioned references by producing a composition for promoting animal growth because it is prima facie obvious to combine two compositions each of which is taught in the prior art to be useful for same purpose in order to form third composition that is to be used for very the same purpose; idea of combining them flows logically from their having been individually taught in the prior art; thus, the claimed invention which is a combination of a formic acid, sorbic acid, and propionic acid set forth prima facie obvious subject matter. See In re-Kerkhoven, 205 USPQ 1069.

Finally, one would have a reasonable expectation of success given that the above mentioned references have provided a detailed blueprint for producing a composition for promoting animal growth, and the steps of which are routine to one of ordinary skill in the art.

Thus in the absence of evidence to the contrary, the invention of claims 1-6 and 13-16 would have been prima facie obvious as a whole to one of ordinary skill in the art at the time the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schasteen et al. (US Pub. No. 20040175434 A1), in view of Raczek (US patent No.



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6787166 B2), and further in view of Bland (US Pub. No. 20020009527 A1) as applied to claims 1, 3-6 and 13-16 above and further in view of Campbell (US patent No. 5229118 A)

Schasteen et al., Raczek, Bland is discussed above.

Schasteen et al., Raczek, Bland do not teach potassium sorbate.

Campbell teaches Feed and water additive and method of making same. Such compositions comprise potassium sorbate. Potassium sorbate is useful as an antifungal substance and serves to inhibit fungi and yeast. Alternatively, other antifungal substances, for example, sodium propionate, sodium formate, propionic acid or formic acid, may be used.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate potassium sorbate of Campbell into the feed compositions of the prior art. The motivation to incorporate potassium sorbate is because Campbell teaches potassium sorbate is useful as an antifungal substance and serves to inhibit fungi and yeast. Therefore, a skilled artisan would have reasonable expectation of successfully producing a feed with antifungal and yeast inhibitory properties.

### ***Response to Argument***

Applicant argues that Schasteen fails to disclose or suggest the compositions comprising the three organic acids in the amounts recited in claim 1. Applicant further argues the present application is focused on compositions comprising the three

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specified organic acids in the amounts recited in the claims, and which do not contain the additional agents disclosed in Schasteen. Examiner does not agree Schasteen teaches an animal feed comprising of organic acids such as sorbic acid, propionic acid, and formic acid in a range of 0.1-50 g/kg, specifically propionic acid 20%-40% and formic acid 45%-65%. Applicant is reminded that the claim comprises a group of organic acids and the transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 327 F.3d 1364, 1368, 66 USPQ2d 1631, 1634 (Fed. Cir. 2003) ("The transition 'comprising' in a method claim indicates that the claim is open-ended and allows for additional steps."); *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.); *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986); *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 803 (CCPA 1981); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) ("comprising" leaves "the claim open for the inclusion of unspecified ingredients even in major amounts"). Applicant discusses that the composition of Raczek are solid preparations and that the reference teaches away from using the small amount of sorbic acid. Raczek has shown that sorbic acid at high concentrations (1.8-2.4% sorbic acid, based on the feed) has a high nutritional activity for growing piglets (see col. 1, lines 50-57), which reads on claim 1 where sorbic acid is

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used in 1.1 to 5%. Schasteen has been relied on for teaching that the food composition is liquid food, see claim 83, further the compound and optional organic acid are preferably added as liquid.

Applicant is further reminded that the obviousness rejection is not an anticipation rejection. In obviousness rejection a combination of references is used, and the references are relied upon in combination and are not meant to be considered separately as in a vacuum. It is the combination of all of the cited and relied upon references that make up the state of the art with regard to the claimed invention. Applicant's claimed invention fails to patentably distinguish over the state of the art represented by the combination of the cited references. *In re Young*, 403 F.2d 754, 159 USPQ 725 (CCPA 1968); *In re Keller* 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Moreover, it is noted that rejections under 35 U.S.C. 103(a) are based on combinations of references, where the secondary references are cited to reconcile the deficiencies of the primary reference with the knowledge generally available to one ordinary skill in the art to show that the differences between Applicant's invention and the prior art are such that they would have been modifications that were *prima facie* obvious to the skilled artisan. It is noted that the claimed invention is not required to be expressly suggested in its entirety by any one or all of the references cited under 35 U.S.C. 103(a). Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Applicant's amendments and remarks have been carefully considered in their

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entirety, but fail to be persuasive in establishing error in the propriety of the present rejection.

### ***Conclusion***

No claims of the present application are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zohreh Vakili whose telephone number is 571-272-3099. The examiner can normally be reached on Monday-Friday (8:30 AM-5:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel can be reached on (571)-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zohreh Vakili  
Patent Examiner  
Art Unit 1614

June 1, 2009

/Ardin Marschel/

Supervisory Patent Examiner, Art Unit 1614